

A METHOD FOR FORWARDING BROADCAST PACKETS IN A BRIDGED IP NETWORK

ABSTRACT

A method for automatically generating a network subnet configuration, monitors IP Address Resolution Protocol (ARP) frames on the network and builds and maintains a table which includes a list of learned subnets, the ports or forwarding domain associated with each of the learned subnets and a mask associated with each learned subnet for identifying hosts belonging to the subnet. The from and to IP addresses from intercepted IP ARP frames are examined to determine if the IP addresses belong in any of the learned subnets. If neither IP address belongs to an existing learned subnet a new learned subnet is established. The subnet includes the common prefix bits of both IP addresses, a mask identifying those bits and the port over which the ARP frame was received. If only one IP address belong to a learned subnet, the mask associated with that subnet is modified to include the common prefix bits of both IP addresses and the forwarding domain is adjusted. If the two IP addresses belong to different learned subnets, the two subnets are combined.